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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/036,208  | 10/29/2001  | Hiroyuki Odaka       | 2530 US1P           | 4444             |
| 23115   | 7590        | 03/11/2005           | EXAMINER            |                  |
| TAKEDA PHARMACEUTICALS NORTH AMERICA, INC<br>INTELLECTUAL PROPERTY DEPARTMENT<br>475 HALF DAY ROAD<br>SUITE 500<br>LINCOLNSHIRE, IL 60069 |             |                      | COOK, REBECCA       |                  |
|   |             |                      | ART UNIT            | PAPER NUMBER     |
|   |             |                      | 1614                |                  |
| DATE MAILED: 03/11/2005   |             |                      |                     |                  |

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                               |                              |  |
|------------------------------|-------------------------------|------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/036,208 | Applicant(s)<br>ODAKA ET AL. |  |
|                              | Examiner<br>Rebecca Cook      | Art Unit<br>1614             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2003.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,4-7,11 and 22-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,4-7,11 and 22-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/29/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

Claims 1, 4-6, 11, 22-24, 26-49 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for insulin sensitizers of formula I does not reasonably provide enablement for any and all insulin sensitizers and anorectants in combination.

Furthermore, it is not seen that the combination of insulin sensitizer and anorectic can be used to treat such complications of diabetes as diabetic retinopathy, since neither insulin sensitizers or anorectics are known in the art to be useful to treat it.

The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. It would take undue experimentation to determine which combination of insulin sensitizers and anorectants would yield the instant inventions. El-Din (abstract) discloses that the combination of tolbutamide and fenfluramine caused marked hyperglycemia in diabetic animals.

Applicants argue that the method of claim 1 is fully enabled, given the working example and teachings of the specification. This is not persuasive in view of the teaching of El-Din regarding the anorectant fenfluramine.

The Declaration of March 7, 2003 by Dr. Odaka submitted under 37 CFR 1.132 is persuasive for the combination of pioglitazone and structurally related insulin sensitizers and sibutramine to lower the concentration of glycosylated hemoglobin, treat diabetes and treat impaired glucose tolerance. Example 1 is persuasive for the combination of

pioglitazone and structurally related insulin sensitizers and mazindol to lower the concentration of glycosylated hemoglobin, treat diabetes and treat impaired glucose tolerance.

Claims 1, 4-6, 11-24, 26-49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recitation "in combination with an anorectic" renders unclear if said anorectic is required to yield the methods of the independent claims, or if only the insulin sensitizer yields the desired method.

Claims 36-42 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not clear what diabetic complications the combination of insulin sensitizer and anorectic will treat and it is not seen that the specification describes them on page 5, use number (16).

In view of the amendments to claim 23 and cancellation of claims 2-3, the earlier rejections under 35 USC 112, paragraphs one and two to claims 11 and 23 are withdrawn.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 28-32, 34-40, 42-47, 49 are rejected under 35 U.S.C. 102(a) as being anticipated by WO 98/11884. WO 98/11884 (pages 12-13) discloses that insulin sensitizing agents in combination with sibutramine are useful to treat diabetes, impaired glucose tolerance and complications of diabetes in which insulin resistance is present.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 11-24, 26-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 98/11884 and MEDLINE AN 97386874 (Russell et al) in view of BIOSIS AN 1997:356824.

WO 98/11884 (page12) discloses that insulin sensitizing agents are used to treat diabetes.

The claims differ over WO 98/11884 in reciting the presence of an anorectic. They also recite a method for lowering the concentration of glycosylated hemoglobin, treating diabetic complications and treating impaired glucose tolerance.

However, Russell (abstract) discloses that an anorectic can improve insulin sensitivity and decreases diabetic complications.

In the absence of a showing commensurate in scope with the claims, it would be obvious to combine an insulin sensitizing agent with an anorectic, since each is

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disclosed to be useful to treat diabetes, its symptoms and complications. It would be obvious that the combination would lower the concentration of glycosylated hemoglobin, since it is a measurement of glucose control. Furthermore, BIOSIS AN 1997:356824 (abstract) discloses that an insulin-sensitizing agent reduces glycosylated hemoglobin. Therefore, it would be obvious to one of ordinary skill in the art to use an insulin-sensitizing agent to yield the recited method.

Claims 1, 4-6, 11-24, 26-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over MEDLINE AN 1998152487 and WO 93/03724 in view of BIOSIS AN 1997:356824.

MEDLINE AN 1998152487 (abstract) discloses that insulin sensitizing agents are used to treat diabetes, treat diabetic complications and treat impaired glucose tolerance.

The claims differ over WO 98/11884 in reciting the presence of an anorectic. They also recite a method for lowering the concentration of glycosylated hemoglobin.

However, WO 93/03724 (pages 3 and 12) discloses that insulin sensitizers cause weight gain and the anorectant 3-guanidinopropionic acid blocks weight gain in response to insulin sensitizers.

In the absence of a showing of unexpected results commensurate in scope with the claims it would be obvious to one of ordinary skill in the art to use the insulin sensitizing agents of MEDLINE AN 1998152487 with the anorectant of WO 93/03724, in order to block the weight gain caused by insulin sensitizers. This would also yield the recited method of treating the obesity complication of diabetes.

Claims 1, 4-6, 11, 22-24, 26-27 differ over the references in reciting a method for lowering the concentration of glycosylated hemoglobin. It would be obvious that the combination would lower the concentration of glycosylated hemoglobin, since it is a measurement of glucose control. Furthermore, BIOSIS AN 1997:356824 (abstract) discloses that an insulin-sensitizing agent reduces glycosylated hemoglobin. Therefore, it would be obvious to one of ordinary skill in the art to use an insulin-sensitizing agent to yield the recited method.

The Declaration of March 7, 2003 by Dr. Odaka submitted under 37 CFR 1.132 is persuasive for the combination of pioglitazone and structurally related insulin sensitizers and sibutramine to lower the concentration of glycosylated hemoglobin, treat diabetes and treat impaired glucose tolerance of claim 25. Example 1 is persuasive for the combination of pioglitazone and structurally related insulin sensitizers and mazindol to lower the concentration of glycosylated hemoglobin, treat diabetes and treat impaired glucose tolerance of claim 7.

In view of applicants' arguments the earlier rejection under 35 USC 103(a) is withdrawn.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1, 4-7, 11, 22-49 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-19 of U.S. Patent No. 6,329,403. Although the conflicting claims are not identical, they are not patentably distinct from each other because '403 is directed to a method of treating diabetes, diabetic complications and impaired glucose tolerance using an insulin sensitizer that meets the definition of the compound of formula I of the claims and an anorectant. While the claims of '403 do not recite lowering the concentration of glycosylated hemoglobin, it would be inherent that a method for treating diabetes would include lowering the concentration of glycosylated hemoglobin, since it is well-known that glycosylated hemoglobin is a measurement of glucose and its concentration would be lowered in a method for treating diabetes.

Applicants' argument that '403 does not recite a method of lowering the concentration of glycosylated hemoglobin is not persuasive because of the argument given above. Applicants' argument that '403 does not disclose the anorectics recited in the instant claims is not persuasive, since instant claims 7, 25, 33, 41 and 48 recite the same anorectants that '403 claims. Furthermore, the instant independent claims do not exclude said anorectants, nor is there support in the specification for excluding them.



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### Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Cook whose telephone number is (571) 272-0571. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached on (571) 272-0951.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Renee Jones (571) 272-0547 in Customer Service.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The official fax number is 571-273-8300.

Rebecca Cook



Primary Examiner  
Art Unit 1614

March 9, 2005